



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/331,829	06/23/99	SUZUKI	H 1576.77

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EXAMINER

SELLERS, R

ART UNIT	PAPER NUMBER
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1712

DATE MAILED:

10/11/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

**Office Action Summary**

Application No.

09/331,829

Applicant(s)

SUZUKI ET AL.

Examiner

Robert Sellers

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_ .
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☒ Some \* c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☒ received.
2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_\_ .
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

**Attachment(s)**

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 and 6 .
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_ .
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_ .

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is no clear line of demarcation between the tetrakisphenol and compound which reacts with the epoxy group of an epoxy resin since a tetrakisphenol contains epoxy-reactive phenolic groups deemed to be a suitable species of epoxy-reactive compound according to the listing of phenols on page 7, line 10 of the specification. Denoting the compound which reacts with the epoxy group of an epoxy resin to cure the resin "other than the tetrakisphenol compound" would resolve this issue.

Claim 4, lines 7-8 and claim 5, lines 9-10 defines a clathrate content "of from 0.001 to 0.1 mole based on 1 mole of the epoxy groups." However, the claims do not require the affirmative presence of an epoxy resin since the sole reference is to "Epoxy resin compositions" in line 1 of the preamble. The body of the claim must require "Epoxy resin compositions comprising an epoxy resin and a tetrakisphenol compound" to validate the tetrakisphenol:epoxy groups molar ratio range.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1712

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Asai et al and Japanese Patent Nos. 5-105739 and 7-173089.

Claim 1 merely defines a tetrakisphenol and epoxy-reactive compound without the affirmative presence of an epoxy resin which is embraced by the tetrakisphenols of Asai et al and the Japanese patents. Tetrakisphenols possess phenolic groups which are reactive with epoxy groups and deemed to be within the realm of the epoxy-reactive compound according to page 7, line 10 of the specification. The Japanese patents acknowledge their epoxy reactivity by their designation of tetrakisphenols as hardeners or curing agents for epoxy resins.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Schreiber Patent Nos. 4,246,162 and 4,668,718 and Koike et al.

Schreiber '162 (cols. 5-6, Table 2, Example 7) and '718 (cols. 7-8 Table, Example 4) and Koike et al (col. 9, Example 14) shows compositions comprising an epoxy resin, a tetrakisphenol and an imidazole accelerator. The tetrakisphenol is encompassed by both the claimed tetrakisphenol and epoxy-reactive compound since it contains phenolic groups which react with epoxy groups.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Schreiber patents.

Although only a tetrakisphenol is exemplified, Schreiber '162 (col. 2, lines 4-11) and '718 (col. 2, lines 17-23) discloses a mixture of a novolak with an aromatic polyol such as a tetrakisphenol. It would have been obvious to blend the novolak hardener with the tetrakisphenol in order to increase the hydroxyl equivalent weight of the hardener which enables the use of less novolak.

None of the cited prior art recites the proportion of from 0.001-0.1 mole of tetrakisphenol per mole of the epoxy groups denoted in claims 4 and 5. Amendment of the claims to 1) define the affirmative presence of the epoxy resin, 2) insert the language distinguishing the tetrakisphenol and epoxy-reactive compound suggested hereinabove, and 3) set forth the molar ratio range would address each of the rejections.

A certified copy of Japanese priority application no. 177468-1997 filed July 2, 1997 has not been received. English abstracts for Japanese Patent Nos. 2401154 B and 7-74260 B listed on the Information Disclosure Statement filed August 30, 1999 (Paper No. 5) have not been received and could not be obtained.

Any inquiry concerning this communication should be directed to Robert Sellers at telephone number (703) 308-2399 (Fax no. (703) 872-9310).

RS  
10/4/00



ROBERT E.L. SELLERS  
PRIMARY EXAMINER